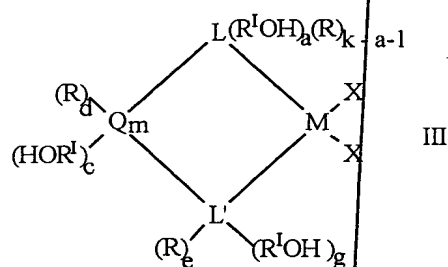
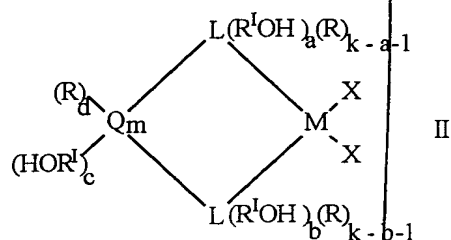


5 *Sub B* **CLAIMS**

Heterogeneous catalytic component obtainable by reacting a porous inorganic support with a metallocene compound characterized in that the metallocene compound is defined by the following general formulas:



10 wherein:

L, equal to or different from each other, is selected from the group comprising: cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl, octahydrofluorenyl or benzoindenyl;

15 each R is independently selected from hydrogen, C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>3</sub>-C<sub>20</sub> cycloalkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>3</sub>-C<sub>20</sub> alkenyl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, C<sub>7</sub>-C<sub>20</sub> alkylaryl, C<sub>8</sub>-C<sub>20</sub> arylalkenyl, linear or branched, optionally substituted by 1 to 10 halogen atoms, or a group SiR<sup>II</sup><sub>3</sub>;

20 each R<sup>I</sup>, equal to or different from each other, is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, optionally containing from 1 to 5 heteroatoms of groups 14 to 16 of the periodic table of the elements and boron ;

each Q is independently selected from B, C, Si, Ge, Sn;

M is a metal of group 3, 4 or 10 of the Periodic Table, Lanthanide or Actinide;

25 each X is independently selected from: hydrogen, chlorine, bromine, OR<sup>II</sup>, NR<sup>II</sup><sub>2</sub>, C<sub>1</sub>-C<sub>20</sub> alkyl or C<sub>6</sub>-C<sub>20</sub> aryl ;

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each  $R''$  is independently selected from  $C_1$ - $C_{20}$  alkyl,  $C_3$ - $C_{20}$  cycloalkyl,  $C_6$ - $C_{20}$  aryl,  $C_3$ - $C_{20}$  alkenyl,  $C_7$ - $C_{20}$  arylalkyl,  $C_7$ - $C_{20}$  arylalkenyl or alkylaryl, linear or branched;  $R''$  is methyl, ethyl, isopropyl;

$L'$  is N or O;

when L is cyclopentadienyl k is equal to 5, when L is indenyl k is equal to 7, when L is fluorenyl or benzoindenyl k is equal to 9, when L is tetrahydroindenyl k is equal to 11 and when L is octahydrofluorenyl, k is equal to 17;

z is equal to 0, 1 or 2;

x is equal to 1, 2 or 3;

y is equal to 1, 2 or 3;

$x + y + z$  is equal to the valence of M;

m is an integer which can assume the values 1, 2, 3 or 4;

a and b are integers whose value ranges from 0 to k-1;

f is an integer whose value ranges from 1 to k;

g is 0 or 1;

c and e are equal to 0 or 1;

$a + b + c$  is at least 1;

$a + g + c$  is at least 1;

d is equal to 0, 1 or 2;

when Q is B then  $c + d = 1$ ;

when Q is C, Si, Ge or Sn, then  $c + d = 2$ ;

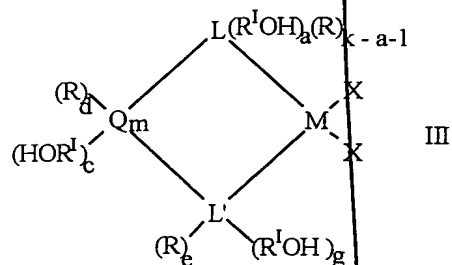
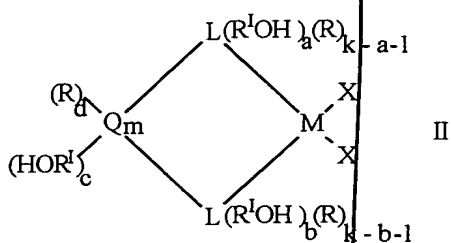
when  $L'$  is N, then  $g + e = 1$ ;

when  $L'$  is O, then  $g = 0$  and  $e = 0$ .

2. Heterogeneous catalytic component according to claim 1 wherein  $R^I$  is:  $C_1$ - $C_{20}$  alkylene,  $C_3$ - $C_{20}$  cycloalkylene,  $C_6$ - $C_{20}$  arylene,  $C_7$ - $C_{20}$  alkenyl,  $C_7$ - $C_{20}$  arylalkylene, or alkylarylene, linear or branched, or a group  $SiR''_2$ ;
3. Heterogeneous catalytic component according to claim 1 wherein  $R^I OH$  is selected from:  $CH_2-CH_2OH$ ,  $CH_2-CH_2-CH_2OH$ ,  $O-CH_2-CH_2OH$ ,  $SiMe_2-CH_2-CH_2OH$  or  $SiMe_2-CH_2-CH_2CH_2OH$ .
4. Heterogeneous catalytic component according to claims 1-2 wherein M is titanium, zirconium or hafnium.
5. Heterogeneous catalytic component according to claims 1-3 wherein the inorganic support is treated with alumoxane or trialkylaluminum.

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6. Heterogeneous catalytic component obtainable by reacting an alumoxane or a trialkylaluminum with a metallocene compound belonging to one of the following general formulas:



wherein:

L, equal to or different from each other, is selected from the group comprising: cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl, octahydrofluorenyl or benzoindenyl;

each R is independently selected from hydrogen, C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>3</sub>-C<sub>20</sub> cycloalkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>3</sub>-C<sub>20</sub> alkenyl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, C<sub>7</sub>-C<sub>20</sub> alkylaryl, C<sub>8</sub>-C<sub>20</sub> arylalkenyl, linear or branched, optionally substituted by 1 to 10 halogen atoms, or a group SiR<sup>II</sup><sub>3</sub>;

each R<sup>I</sup>, equal to or different from each other, is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, optionally containing from 1 to 5 heteroatoms of groups 14 to 16 of the periodic table of the elements and boron ;

each Q is independently selected from B, C, Si, Ge, Sn;

M is a metal of group 3, 4 or 10 of the Periodic Table, Lanthanide or Actinide;

each X is independently selected from: hydrogen, chlorine, bromine, OR<sup>II</sup>, NR<sup>II</sup><sub>2</sub>, C<sub>1</sub>-C<sub>20</sub> alkyl or C<sub>6</sub>-C<sub>20</sub> aryl ;

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each  $R''$  is independently selected from  $C_1$ - $C_{20}$  alkyl,  $C_3$ - $C_{20}$  cycloalkyl,  $C_6$ - $C_{20}$  aryl,  $C_3$ - $C_{20}$  alkenyl,  $C_7$ - $C_{20}$  arylalkyl,  $C_7$ - $C_{20}$  arylalkenyl or alkylaryl, linear or branched;  $R''$  is methyl, ethyl, isopropyl;

$L'$  is N or O;

when L is cyclopentadienyl k is equal to 5, when L is indenyl k is equal to 7, when L is fluorenyl or benzoindenyl k is equal to 9, when L is tetrahydroindenyl k is equal to 11 and when L is octahydrofluorenyl, k is equal to 17;

z is equal to 0, 1 or 2;

x is equal to 1, 2 or 3;

y is equal to 1, 2 or 3;

$x + y + z$  is equal to the valence of M;

m is an integer which can assume the values 1, 2, 3 or 4;

a and b are integers whose value ranges from 0 to k-1;

f is an integer whose value ranges from 1 to k;

g is 0 or 1;

c and e are equal to 0 or 1;

$a + b + c$  is at least 1;

$a + g + c$  is at least 1;

d is equal to 0, 1 or 2;

when Q is B then  $c + d = 1$ ;

when Q is C, Si, Ge or Sn, then  $c + d = 2$ ;

when  $L'$  is N, then  $g + e = 1$ ;

when  $L'$  is O, then  $g = 0$  and  $e = 0$ .

7. Heterogeneous catalytic component according to claims ~~1-6~~<sup>1-6</sup> wherein in the metallocene compound at least one L is a fluorenyl or octahydrofluorenyl ring.
8. Heterogeneous catalytic system comprising the heterogeneous catalytic component of claims ~~1-6~~<sup>1-6</sup> and a cocatalyst selected from the group consisting of: alkylaluminumoxane, trialkylaluminum, Lewis acid and mixtures thereof.
9. Process for the polymerization of alpha olefins in slurry, in gas phase, in bulk or in solution characterized by the use of the catalyst of claim 8.

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a

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a

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add a x bz